

OCTOBER 3.

The President, Dr. RUSCHENBERGER, in the chair.

Thirty-six members present.

A paper entitled "On the Extrusion of the Seminal Products in Limpets, with some Remarks on the Phyllogeny of *Docoglossa*," by W. H. Dall, was presented for publication.

*Bituminous Sediment of the Schuylkill River.*—Prof. LEIDY remarked that he had been recently invited by Dr. Josua Lindahl, Secretary of the Swedish Commission, who had at his command a small steamer, to make the experiment of dredging in the Schuylkill River. He had accepted the invitation in the expectation of finding abundance of the smaller aquatic animals, such as he had sparingly detected on stones near shore below low-water mark, just below Fairmount dam. The dredging was tried near the mouth of the Schuylkill, but no living thing whatever was drawn up, as the mud and sand were black and saturated with bituminous oil. This latter fact was unexpected, and would appear to illustrate the mode of formation of more ancient bituminous shales. The refuse of the city gas-works, and probably of some coal-oil refineries, run into the river. The oils appear to have an affinity for the particles of clay carried down the river, and, precipitating, become bituminous sediments at the bottom. In the same manner oils, from a profusion of decomposing animals, and probably also plants, supplied the sedimentary muds of ancient shales. Many even of the lowest plants contain abundance of oil, and it may be observed in such forms as *Vauheria*, *Diatomes*, etc.

*Fertilization in Beans.*—Mr. MEEHAN observed that in all the discussions on the injurious effect of close breeding in flowers, and the consequent theories of cross fertilization, nearly all the arguments were drawn from structure. We are asked to note certain arrangements, and then to believe that certain results must follow. He preferred to watch the plants in their actions, and in the results of their actions when excluded from external agencies, believing it the more practical way and preferable to the theoretical one. One of his friends who thought he was wrong in limiting insect agency to a few plants, and in questioning the injury from vegetable close breeding, had been giving for some months past a series of articles in proof of his side, which was the generally accepted view. Of course the position of his friend was entitled to all the benefit to be derived from structural arrangement; but when he referred to actual behavior in plants, it came within the province he had marked out for himself. In the last paper there was an instance of this kind. After noting how the flowers of